



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

**Sooyoul Hong, et al.**

Application No.: 10/052,003

Filed: January 16, 2002

For: **ANTIFERROMAGNETICALLY COUPLED  
(AFC) MEDIA WITH FLASH CR  
INTERLAYER BETWEEN TOP MAGNETIC  
LAYER AND S2 MAGNETIC LAYER**

Examiner: Holly Rickman

Art Group: 1773

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SEP 30 2003  
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AMENDMENT UNDER 37 C.F.R. §1.115

Mail Stop Non-Fee Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated July 2, 2003, please amend the above entitled application as follows:

IN THE CLAIMS

Please amend claims 1, 2, 5-7, 10-12 and 15 as follows.

- A<sub>1</sub>
1. (Amended) A magnetic disk for a hard disk drive, comprising:
- a substrate;
  - a S1 magnetic layer located over said substrate;
  - a layer of anti-ferromagnetic material ~~ruthenium~~ located over said S1 magnetic layer;
  - a top magnetic layer located over said layer of anti-ferromagnetic material;
  - a layer of chromium located adjacent to said top magnetic layer, a portion of said  
chromium diffuses into said top magnetic layer ~~over said layer of ruthenium; and,~~
  - ~~a top magnetic layer located adjacent to said layer of chromium.~~



1773

PTO/SB/21 (03-03)

Approved for use through 04/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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# TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/052,003
Filing Date	January 16, 2002
First Named Inventor	Sooyoul Hong, et al.
Art Unit	1773
Examiner Name	Holly Rickman
Attorney Docket Number	155634-0130

Total Number of Pages in This Submission

9

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## ENCLOSURES (Check all that apply)

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|--|---|---|
| <input checked="" type="checkbox"/> Fee Transmittal Form                     | <input type="checkbox"/> Drawing(s)                                       | <input type="checkbox"/> After Allowance Communication to a Technology Center (TC)      |
| <input type="checkbox"/> Fee Attached  | <input type="checkbox"/> Licensing-related Papers                         | <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences     |
| <input checked="" type="checkbox"/> Amendment/Reply                          | <input type="checkbox"/> Petition   | <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) |
| <input type="checkbox"/> After Final   | <input type="checkbox"/> Petition to Convert to a Provisional Application | <input type="checkbox"/> Proprietary Information  |
| <input type="checkbox"/> Affidavits/declaration(s)                           | <input type="checkbox"/> Power of Attorney, Revocation                    | <input type="checkbox"/> Status Letter  |
| <input type="checkbox"/> Extension of Time Request                           | <input type="checkbox"/> Change of Correspondence Address                 | <input type="checkbox"/> Other Enclosure(s) (please identify below):                    |
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| <input type="checkbox"/> Response to Missing Parts/Incomplete Application    | Remarks   |   |
| <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 |   |   |

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual	Ben Yorks, Reg. No. 33,609 IRELL & MANELLA LLP
Signature	<i>Ben Yorks</i>
Date	September 22, 2003

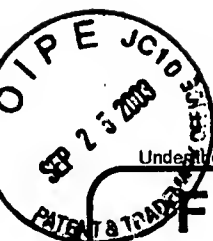
## CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, 22313 on September 22, 2003

Typed or printed	Wendy Jones	Date	September 22, 2003
Signature	<i>Wendy Jones</i>		

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

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# FEE TRANSMITTAL for FY 2003

Effective 01/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ ) 0.00

## Complete if Known

Application Number 10/052,003  
Filing Date January 16, 2002  
First Named Inventor Sooyoul Hong, et al.  
Examiner Name Holly Rickman  
Art Unit 1773  
Attorney Docket No. 155634-0130

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## METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☐ Deposit Account:

Deposit Account Number  
Deposit Account Name

09-0946

Irell & Manella, LLP

The Commissioner is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	750	2001	375	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)				(\$ )	

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims		Extra Claims		Fee from below		Fee Paid
Independent	Multiple Dependent	-20** =	-3** =	X	X	

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	84	2201	42	Independent claims in excess of 3
1203	280	2203	140	Multiple dependent claim, if not paid
1204	84	2204	42	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ )

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	410	2252	205	Extension for reply within second month	
1253	930	2253	465	Extension for reply within third month	
1254	1,450	2254	725	Extension for reply within fourth month	
1255	1,970	2255	985	Extension for reply within fifth month	
1401	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	
1403	280	2403	140	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,300	2453	650	Petition to revive - unintentional	
1501	1,300	2501	650	Utility issue fee (or reissue)	
1502	470	2502	235	Design issue fee	
1503	630	2503	315	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	750	2809	375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	750	2810	375	For each additional invention to be examined (37 CFR 1.129(b))	
1801	750	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ )

## SUBMITTED BY

(Complete if applicable)

Name (Print/Type)

Ben Yorks

Registration No.  
(Attorney/Agent)

33,609

Telephone 949 760-0991

Signature

*Ben Yorks*

Date

September 22, 2003

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